the present invention helps to reduce the health hazard associated with the cooling fluids and the cost and dangers associated with chemical treatment programs.

Similarly, breathable air is often recycled in transportation systems, either to reduce costs (as with commercial airliners) or because a limited supply is available (as with submarines and spacecraft). Efficient removal of microorganisms permits this air to be recycled more safely. In addition, the material of the invention can be used to increase indoor air quality in homes or offices in conjunction with the air circulation and conditioning systems already in use therein. The purification material of the invention can also be used to purify other types of gases, such as anesthetic gases used in surgery or dentistry (e.g., nitrous oxide), gases used in the carbonated beverage industry (e.g., carbon dioxide), gases used to purge process equipment (e.g., nitrogen, carbon dioxide, argon), and/or to remove particles from surfaces, etc.

In each of these applications, the method of using the material of the invention is relatively simple and should be apparent to those of skill in the filtration art. The fluid to be filtered is simply conducted to one side of a block or sheet of material of the invention, typically disposed in some form of housing, and forced through the material as the result of a pressure drop across the purification material. Purified, filtered fluid is then conducted away from the "clean" side of the filter and further processed or used.

The invention having been thus described by reference to certain of its specific embodiments, it will be apparent to those of skill in the art that many variations and modifications of these embodiments may be made within the spirit of the invention, which are intended to come within the scope of the appended claims and equivalents thereto.

What is claimed is:

**1**. An immobilization and contacting medium for microorganisms, comprising apatite and a binder therefore, wherein the medium is in a rigid, porous form selected from a block or a sheet, further wherein the medium is constructed and arranged to immobilize microorganisms on a surface of the pores of the medium while also being constructed and arranged to permit an external agent to contact the immobilized microorganisms.

**2**. The immobilization and contacting medium of claim **1**, further comprising one or more microorganisms disposed within the pores thereof.

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